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AUTHOR Melville, D. Scott; Maddalozzo, John G. F.
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ABSTRACT

The purpose of this study was to determine if a male physical educator's appearance of body fatness affects his ability to teach and instill good exercise intentions in high school students. Eight hundred and fifty students viewed one of two 20-minute videotapes in which exercise concepts were presented. The tapes were identical except that in one of the tapes the instructor's body dimensions were altered by a "fat" suit. Immediately upon seeing the tape, the students completed a content examination and questionnaire. Viewers of the overweight instructor's tape scored lower on all aspects of the examination, exhibited a lesser intent to exercise, and less favorably rated the teacher's likability, expertise, and appropriateness as a role model. It was concluded that a male physical educator's appearance may be a very powerful variable mediating teacher effectiveness. A table and six figures detailing student responses are appended. (MT)

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The Effects a Physical Educator's Appearance of Body Fatness has on Communicating Exercise Concepts to High School Students

D. Scott Melville

Department of Health, Physical Education, and Athletics

Eastern Washington University

John G.F.Maddalozzo

Department of Physical Education

Iowa State University

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Running head: EDUCATOR'S APPEARANCE OF FATNESS

Abstract

The purpose of this study was to determine if a male physical educator's appearance of body fatness effects his ability to teach and instill good exercise intentions in high school students. Eight hundred and fifty students viewed one of two, 20 minute videotapes in which exercise concepts were presented. The tapes were identical with one exception. In one of the tapes the instructor's body dimensions were altered by a "fat suit". Immediately upon seeing their tape, the students completed a content examination and questionnaire. Analysis of variance revealed that the viewers of the overweight instructor's tape scored lower on all aspects of the examination ($p<.01$). Also, *t*-tests done on their responses to the questionnaire found that they exhibited a lesser intent to exercise ($p<.01$) and less favorably rated the teacher's likability, expertise, and appropriateness as a role model ($p<.01$). Two X two (instructor appearance X students' self-perceived fitness levels) ANOVA's were done on the students' intent to exercise, liking of the instructor, appropriateness of the instructor as a model, and knowledgeability of the instructor. No interactions were found ($p>.01$). It was concluded that a male physical educator's appearance may be a very powerful variable mediating teaching effectiveness. Further ideas for study in this area were suggested and possible implications for teacher education schools were made.

The Effects a Physical Educator's Appearance of Body Fatness has on Communicating Exercise Concepts to High School Students

There are two schools of thought on the issue of whether or not educators are role models (Mitic, 1981). At one end of the continuum are those educators who believe that a good example must be set for students since a natural part of the maturing process involves the emulation of those adults with whom they come in contact. At the other extreme are educators who feel that their responsibility is to provide students with the decision-making tools to make objective and conscientious decisions. The educator in this case becomes a facilitator whose own behavior is not a part of the student's learning process.

Research has documented a wide variety of teacher role modeling effects. For instance, Feshbach and Feshbach (1972) found that nine and ten year old pupils readily changed their preferences of animal pictures to match their teacher's preferences after watching the teacher choose her favorite pictures. Landers and Landers (1973) reported that children were more likely to emulate a highly competent teacher model than a highly competent peer model on a complex motor task, but would imitate low competency peers more than low competency teachers on the same task. Molloy (1975) found teaching attire to have an effect on the discipline, work habits, and attitudes of

students in the classroom. Chaikin, Gillen, and Derlega (1978) had theatrical make-up consultants manipulate the physical attractiveness of a high school psychology teacher prior to a videotape presentation and discovered that appearance exerted a powerful effect on the students' perceptions of that teacher.

One area in which role modeling effects have not been investigated is that of the teacher's appearance of body fatness. Early in the profession many physical education authorities have espoused the importance of physically fit role models. McCloy (1940, p.158) stated, "The example of the teacher is another potential factor in the mind-set of the pupil. Does he look the part? Does he look healthy, vigorous, and alert or is he fat and pudgy,..." In recent years, despite a lack of research evidence, it appears that this viewpoint is being voiced even more frequently and emphatically. "Physical fitness must become a way of life for all of us. How can we (physical educators) expect anyone to listen to what we have to say about the benefits of fitness if we are overweight and in poor physical condition ourselves." (Johnson, 1985, p.34). "How can we be effective in promoting health and fitness if our bodies are not living testimonies of our commitment. What we are communicates more than what we say" (Wilmore, 1982, p.43)! Even the National Association for Sport and Physical Education's criteria for selecting the physical

educator of the year requires that the educator serve as a positive role model epitomizing personal health and fitness.

The purpose of this study was to determine if a male physical educator's appearance of body fatness effects his ability to teach and instill good exercise intentions in high school students. This study also attempted to find out if a physical education instructor's apparent level of fatness effects students' (1) liking of the instructor, (2) perception of the instructor as being knowledgeable, and (3) belief that the instructor is an appropriate role model.

Two 20 minute videotapes were made of a male instructor discussing exercise concepts. The tapes were identical with the exception that in one, the instructor's body dimensions were altered to give the appearance of being overweight. Eight hundred and fifty high school students viewed one or the other of the tapes. Immediately after seeing the tapes, all the students completed an examination and questionnaire. Because it was believed students might question the sincerity of an unfit physical education instructor, it was hypothesized that the students who viewed the tape of the apparently overweight teacher would score lower on the examination; would display a lesser intent to exercise; and would less favorably rate the teacher's likability, expertise, and appropriateness as a role model. It was also hypothesized that the body composition of the students might interact with the levels of the instructor's apparent

fatness. Namely, it was believed that students who viewed themselves as being of thin body composition would be especially critical and less influenced by an overweight instructor. Students classifying themselves as overweight, because they could better empathize with an overweight instructor, would not be as strongly unreceptive.

Method

Subjects

Subjects consisted of high school students enrolled in six schools located in rural and urban settings of the Northwestern United States (n=850). Ages ranged from 14 to 19 years.

Videotapes

Two videotapes were made.[1] Many taping sessions were practiced to insure that the content and the instructor's enthusiasm (body language and voice inflections) were the same in each. A number of college students listened to the audio-only portions of the tapes as an added check of the equality of content and instructor enthusiasm. When asked to rate the tapes, they all were unable to identify either of the tapes as having better content descriptions or a more enthusiastic presenter. Both tapes were 20 minutes long. The only difference between tapes was the physical education instructor in the one tape wore a costume to present an image of an overweight teacher. The outer attire consisted of the same sweatpants and sport shirt in both

cases. However, in the overweight tape the instructor wore an inner garment which consisted of a leotard padded with polyurethane foam sheets and polyester bat sheeting (Moss, 1980). This "fat suit" resulted in a 96.5 cm chest, 99.1 cm waist, and 101.6 cm hips. Without the suit the instructor's dimensions were 91.4 cm, 73.7 cm, 94.0 cm. Pilot testing found viewers of the tape readily believed the person in the "fat suit" to be overweight and did not suspect a padded undergarment (See Figure 1).

The content in the first half of each tape pertained to flexibility. The importance of flexibility to health and sports performance was covered. Flexibility exercises were demonstrated and principles of flexibility development discussed. The second half of the tapes were devoted to body composition. Its relationship to health and sports performance was introduced, and the role diet and exercise can play in control of body composition was presented.

Procedure

Prior to viewing the videotapes, all students were informed that they would be given an examination and questionnaire at the completion of the showing. They were told not to sign their names and that the results of both would be kept confidential. Viewing of the tapes was done in class sizes which ranged from 13 to 81 students (M=36.39). Four large classes were shown the tapes in gymnasium environments, but

the majority of students watched in smaller classrooms. In gymnasium settings multiple monitors were used.

Both tapes were shown within each school. The different tapes were shown in an alternating fashion; the fit tape being shown first in three of the schools and the overweight tape first in the other three schools. This procedure insured that one of the tapes was not viewed predominately in the morning or afternoon school periods and also resulted in the gymnasium showings being equally distributed between the tapes.

Results

The content examination which was administered to the students consisted of 13 questions. The first 6 of the questions pertained to flexibility concepts and the remaining 7 to weight control. To test the hypothesis that the tape of the overweight instructor would result in students not learning these exercise concepts as effectively as students who viewed the fit instructor tape, a two X two (instructor fitness level X concept area) ANOVA was calculated on the examination error scores. As can be seen in Figure 2, the main effects showed that the viewers of the fit tape very much outperformed the viewers of the overweight tape ($F(1,847)=206.66$, $p<.01$). The mean number of errors made by the students who watched the fit instructor was 1.94, while the viewers of the overweight tape missed 3.70 questions. No interaction across concept areas was present ($p>.01$).

The questionnaires given the students included five questions which required responses on a Likert scale (strongly agree-5, agree-4, uncertain-3, disagree-2, strongly disagree-1)[2]. Question one asked the students whether or not they liked the instructor. They agreed (M=3.90) about liking the fit instructor and disagreed (M=2.00) about liking the overweight instructor (t=26.37, p<.01).

Question two asked the students if they considered the instructor an expert on physical fitness. Here again, the students seemed biased against the overweight presenter. Those who viewed the fit tape significantly rated their instructor more knowledgeable (M=3.49 to M=2.51, t=14.44, p<.01).

The third question queried the students if they agreed that physical education teachers should be good role models. They very much agreed that role modeling was important (M=4.10).

Question four asked whether or not they believed the teacher in the video practiced what he preached about physical fitness. The mean response was 3.90 and 2.01 to the fit and overweight tapes, respectively (t=26.37, p<.01). Clearly the students seemed to be recognizing the difference in the body dimensions of the instructors and were judging the overweight teacher to be a poorer role model.

Question five asked the students if they planned to make an effort to improve their future level of physical fitness as a result of seeing the tape. Even this question, which was not asking the

students their perceptions of the instructor, was answered more positively by the observers of the fit tape. The mean for the fit group was 3.65 compared to the 3.26 of the overweight tape (t=5.74, p< .01).

Further data analysis was performed to determine whether or not the perceived fitness level of the students might have an effect on their responses to questionnaire questions 1,2,4, and 5. On the questionnaires, the students had been asked to rate their own fitness level (extremely overweight-5, moderately overweight-4, ideal weight-3, moderately underweight-2, extremely underweight-1). The students who placed themselves in either category 4 ot 5 were considered in the overweight level of students. The students who placed themselves in either category 1 or 2 made up the thin level of students. Two X two (instructor fitness level X student's perceived fitness level) ANOVA's were calculated for each of the questions (Figures 3,4,5,6).

The main effects in all four analyses again confirmed that the overweight instructor was evaluated significantly lower than the fit instructor (p<.01). However, interaction effects were not found in any of the data (p>.05). This data did not support the hypothesis that those students who perceived themselves to be overweight will more favorably receive information from an overweight instructor than do students with thin self-perceptions.

Collapsing across tapes found main effects for the students in question 1 (liking of the instructor) and question 5 (students' intention to improve physical fitness). In question 1 the fit students displayed a greater liking of the instructor than did the overweight students ($F(1,378)=6.89, p<.01$). In question 5 the fit students indicated a greater intention to improve their physical fitness level ($F(1,378)=6.80, p<.01$). Table 1 lists the mean scores for all groups on both the questionnaire and content examination.

Insert Table 1 about here

Discussion

The results of this study indeed supported the hypothesis that the appearance of fatness in a physical educator has an effect upon teaching exercise concepts to high school students. On a 13 question examination, the students who saw the overweight tape missed nearly two more questions than those who viewed the tape of the fit instructor (a score of 72% compared to 85%). Clearly the appearance of the instructor who was made to look overweight was causing many students to be a good deal less attentive to the subject matter.

Why the students were less attentive to learning the subject matter seemed to be related to the attitudes they held towards the overweight instructor. Responses to the questionnaire indicated that both students with overweight and thin self-perceptions very strongly believed physical educators should model good fitness behaviors. Also, data showed them to be very aware of the different fitness levels of the instructor in the tapes and were strongly intolerant of the seemingly poorly conditioned person. They did not think he was an appropriate role model, they tended not to like him, they did not perceive him to be particularly knowledgeable, and they indicated that they would be less influenced by his message to exercise.

If school physical education is to survive and prosper, many authorites believe our programs must become more effective in improving the deteriorating fitness of our children. Children need to know more about the principles of physical fitness and develop good eating and exercise habits. The results of this study may have identified an instructor variable crucially important to achieving this goal. Certainly the effects we found are powerful enough to warrant further research.

Many questions will need to be answered before we have a clear understanding of the relationship between a physical educator's appearance of fatness and teaching effectiveness. Instructor variables such as sex, age, and different degrees of fitness need to

be researched. Also, the generalizability of this study's findings must be addressed. Would similar effects be found in live situations as opposed to videotapes? Would instructor fitness levels have a diminishing or increasing effect over longer periods of exposure? What would be the effects upon students of different elementary grade levels? Will the effects generalize beyond the teaching of cognitive concepts to the instruction of sports skills and coaching environments?

Until some of these questions are answered, we must be cautious in drawing implications. However, this study does suggest that there might be good reason for colleges and universities to begin taking a more serious interest in the fitness level of their physical education majors. Are they turning out graduates who are overweight or who have habits which may predispose them to become overweight? If so, such procedures as helping them design individualized exercise programs and monitoring their progress from freshman to senior year may be in order. Even the establishment of citations for fitness excellency, exit standards for all seniors, and follow up services for graduates may be justified in the name of teaching effectiveness.

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Footnotes

[1]Content of the videotapes is available upon request made to the primary author.

[2]The questionnaire is available upon request made to the primary author.

Table 1

Group Means for Content Exam and Questionnaire

	Fit tape	Fat tape
Group	M	M
	Content exam	
Grand score[a]	11.06	9.30
Flexibility score[b]	5.18	4.14
Weight control score[c]	5.87	5.13
	Questionnaire[d]	
Liking of instructor	3.90	2.00
Fat students	3.30	2.31
Fit students	3.60	2.61
Preceived expertise	3.49	2.51
Fat students	3.28	2.45
Fit students	3.47	2.55

Table 1 continued

Group Means for Content Exam and Questionnaire

Practiced as preached	3.90	2.01
Fat students	3.85	2.08
Fit students	3.89	2.03
Intent to exercise	3.65	3.26
Fat students	3.47	3.07
Fit students	3.76	3.33

[a]= possible 13; [b]= possible 6; [c]= possible 7; [d]= Likert scale (strongly agree-5, strongly disagree-1).

Figure Captions

Figure 1. Instructor's appearance of fatness in overweight (top pictures) and fit (bottom pictures) tapes.

Figure 2. Content examination scores

Figure 3. Students' liking of the physical educator.

Figure 4. Students' belief that the physical educator was an expert on physical fitness.

Figure 5. Students' belief that the physical educator practiced what he preached.

Figure 6. Students' intention to improve their future level of physical fitness.

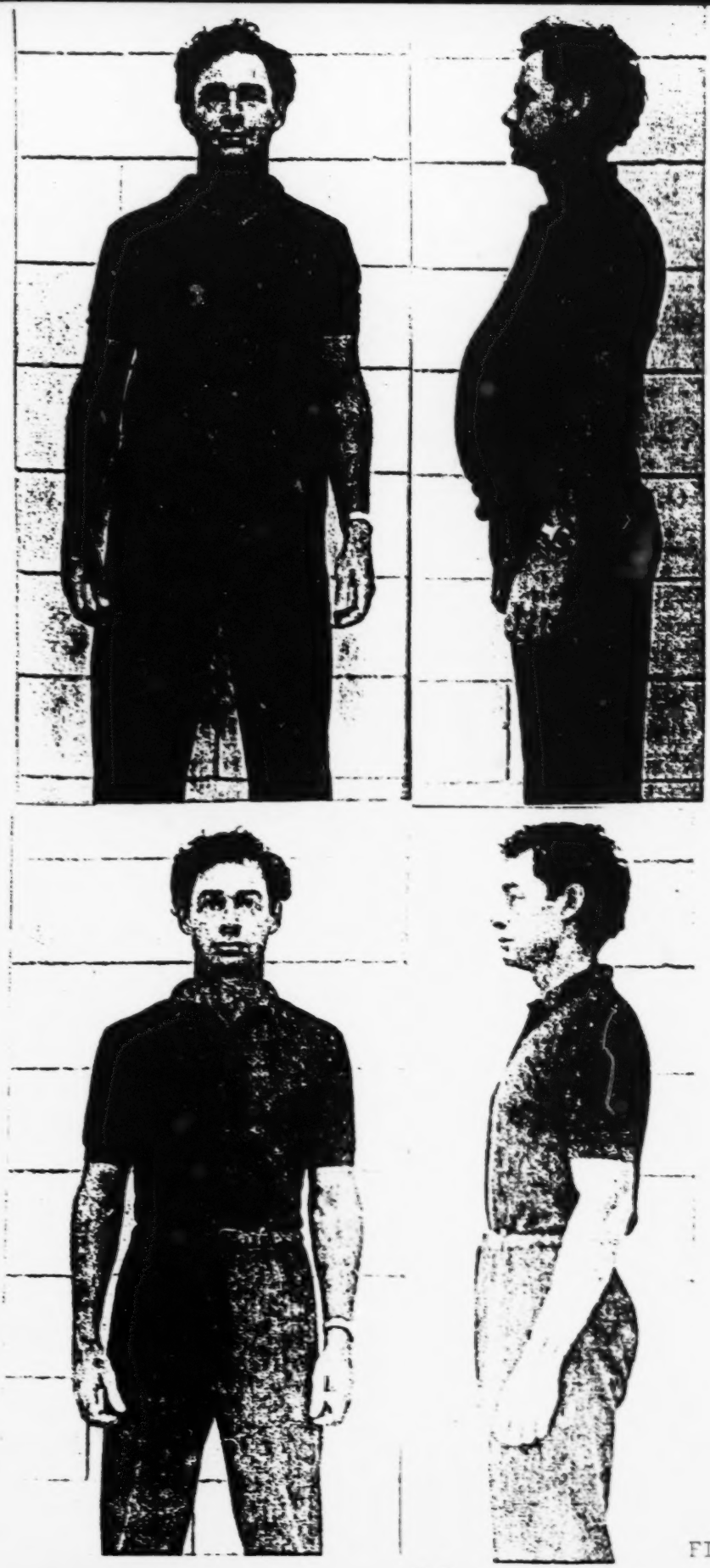


FIGURE 1

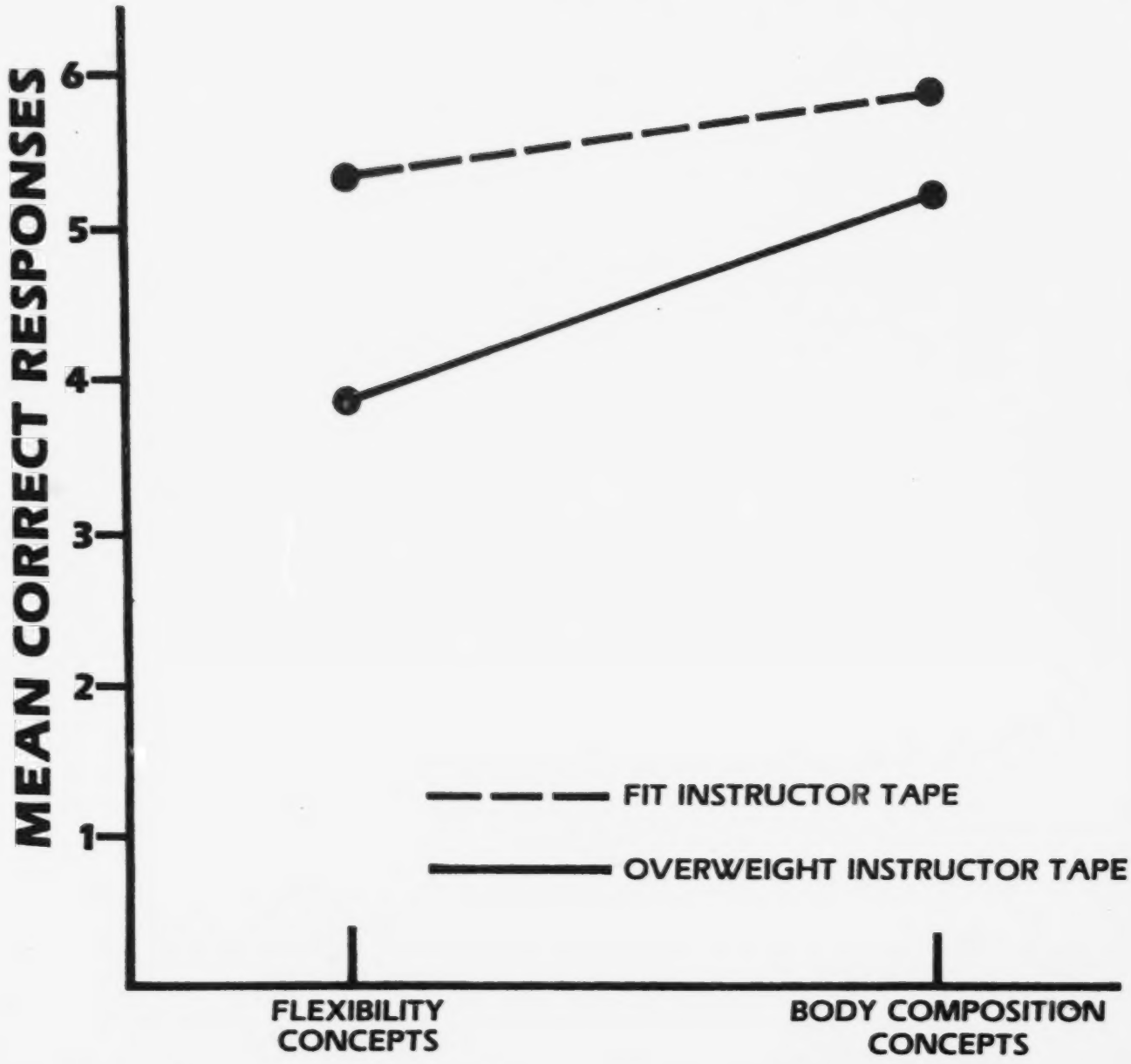

MEAN CORRECT RESPONSES
6
5
4
3
2
1
FIT INSTRUCTOR TAPE
OVERWEIGHT INSTRUCTOR TAPE
FLEXIBILITY CONCEPTS
BODY COMPOSITION CONCEPTS

FIGURE 2

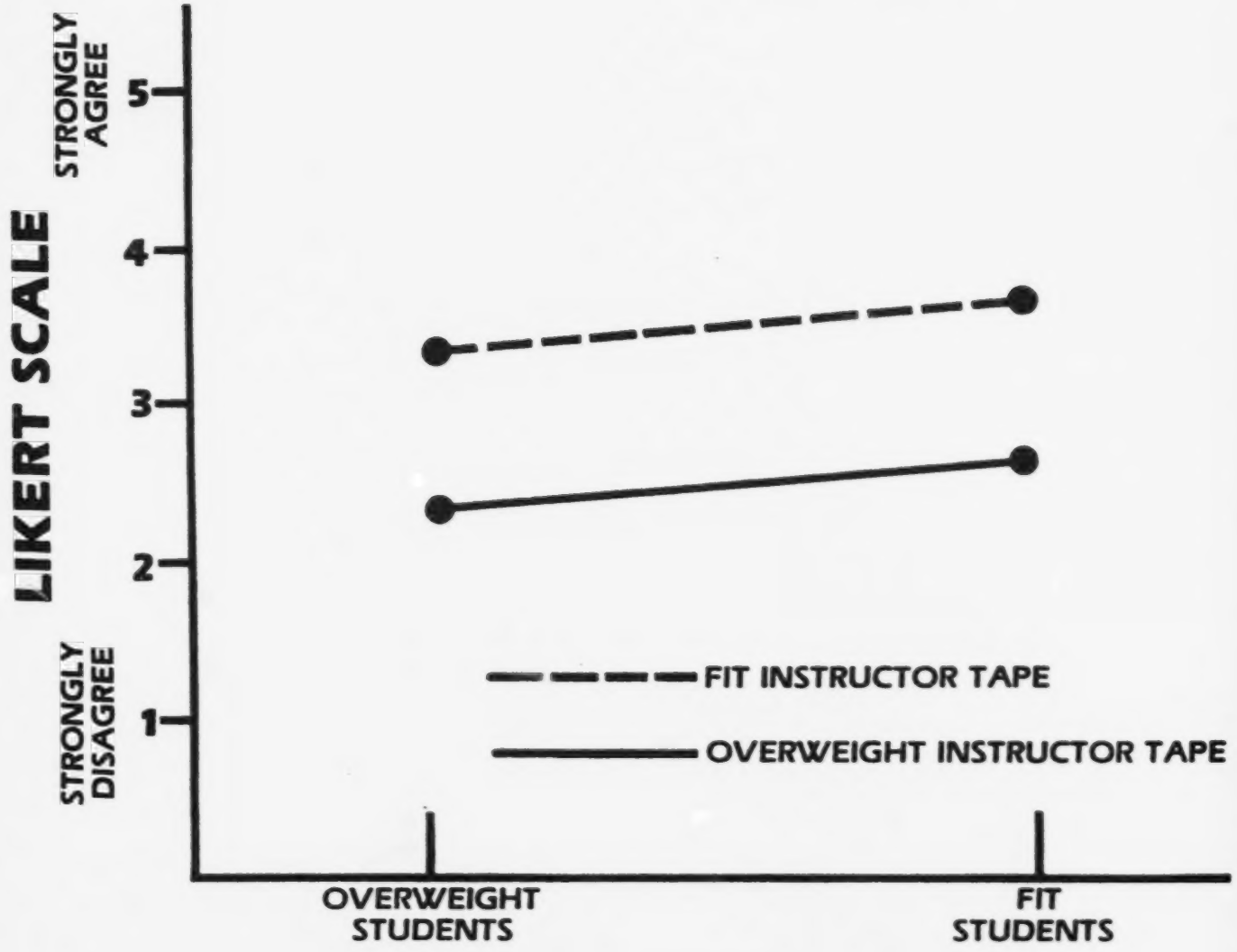
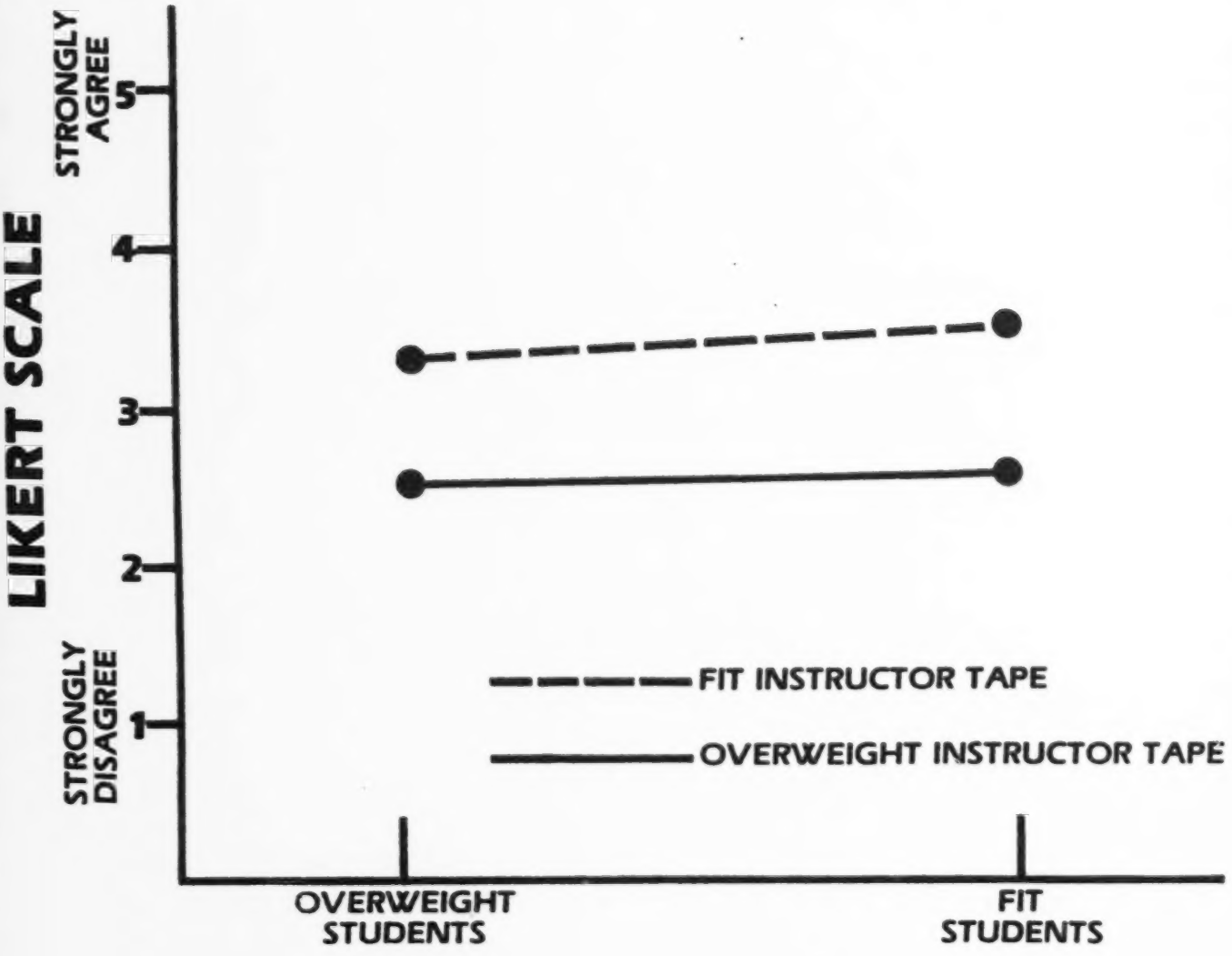

LIKERT SCALE
STRONGLY AGREE
5
4
3
2
1
STRONGLY DISAGREE
FIT INSTRUCTOR TAPE
OVERWEIGHT INSTRUCTOR TAPE
OVERWEIGHT STUDENTS
FIT STUDENTS

FIGURE 3


LIKERT SCALE
STRONGLY AGREE
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4
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STRONGLY DISAGREE
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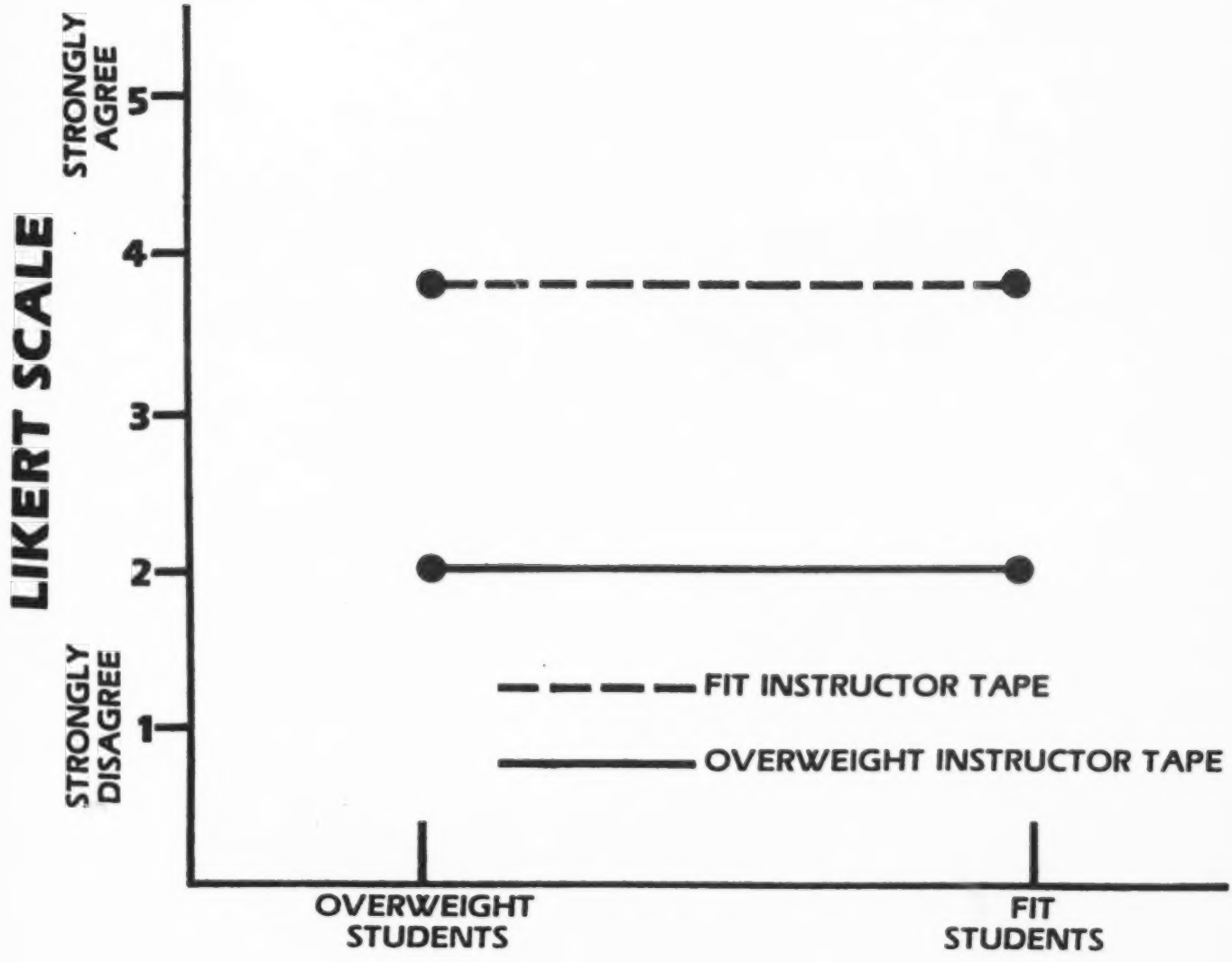
FIT INSTRUCTOR TAPE
OVERWEIGHT INSTRUCTOR TAPE
OVERWEIGHT STUDENTS
FIT STUDENTS

FIGURE 4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FIT INSTRUCTOR TAPE
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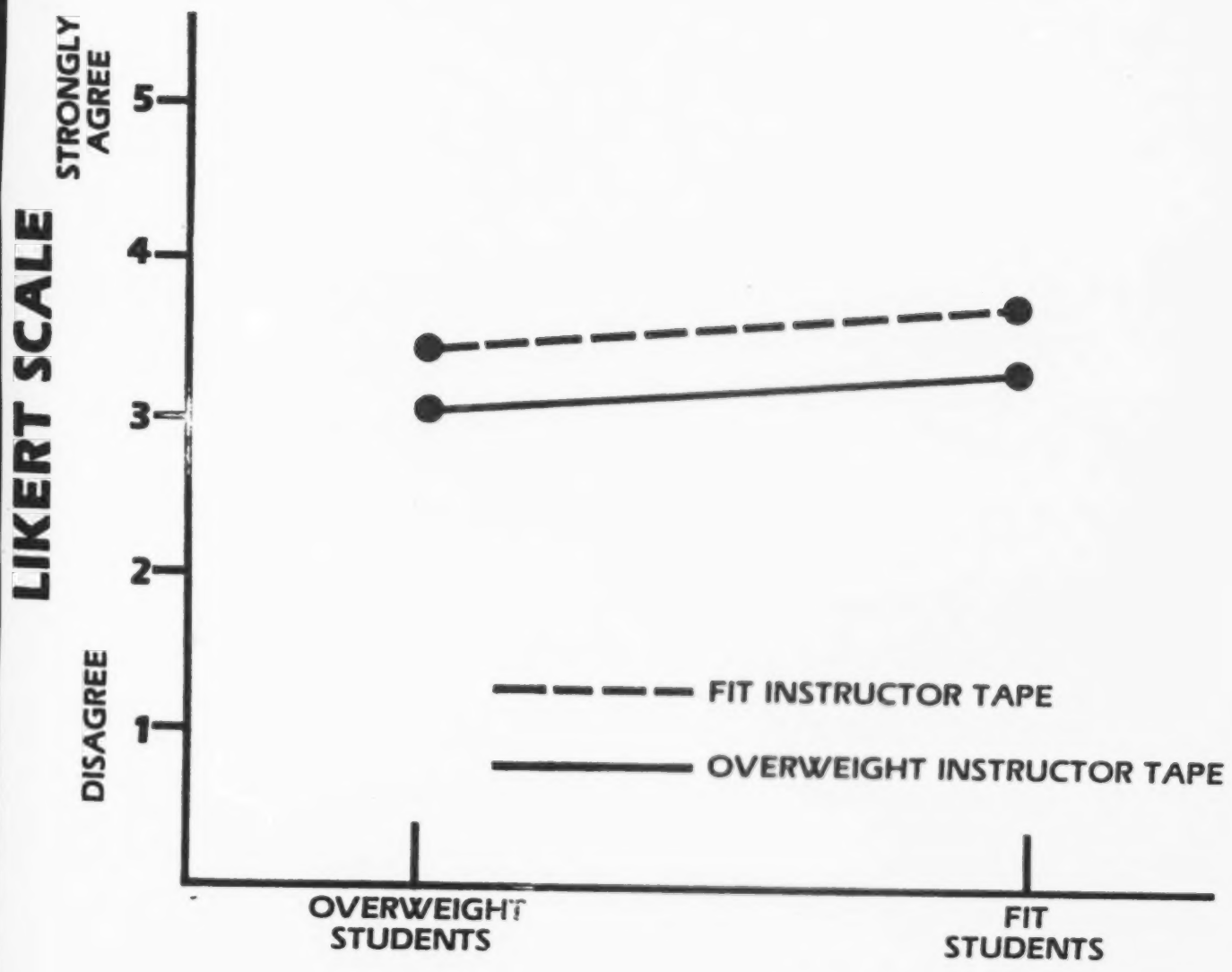
OVERWEIGHT STUDENTS
FIT STUDENTS

FIGURE 5


LIKERT SCALE
STRONGLY AGREE
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DISAGREE
FIT INSTRUCTOR TAPE
OVERWEIGHT INSTRUCTOR TAPE
OVERWEIGHT STUDENTS
FIT STUDENTS

FIGURE 6